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ABSTRACT

This document contains three symposium papers on learning and working in groups. "Collaborating in Public with the Opposition: A Study of the Complex Meaning of Learning in a Cross Boundary Work Group" (Marjorie H. Carkhuff) reports on a study demonstrating that great personal, professional, and team member learning is foundational to the work experience and reciprocal to collective team and organizational learning. "Designing Dispute Management Systems" (Douglas A. Benson) argues that, although individuals cannot eliminate change or the conflict that results from change, they can choose how they handle conflicts and develop properly designed dispute management systems offering maximal organizational assistance for the mutual benefit of all stakeholders. "Application and Test of a Model of Team Effectiveness to Self-Managing Interdisciplinary Psychiatric Treatment Teams" (Reid A. Bates) discusses a study of a causal model of self-managing team performance that supported the hypothesized model and yielded the following findings: (1) team design factors (including task clarity, shared team mission, and leadership support) positively influenced work process; (2) interpersonal process factors did not influence work process; and (3) work process was a significant predictor of team performance. (MN)

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3 **Learning and Working in Groups**

Chair: Allan H. Church, W. Warner Burke and Associates, Inc.

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Collaborating in Public with the Opposition": A Study of the Complex Meaning of Learning in A Cross Boundary Work Group

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The primary purpose of this study was to determine the meaning of learning for participants while working in a cross boundary work group. This study presents evidence that great personal, professional and team member learning was foundational to the work experience and reciprocal to collective team and organizational learning. These findings propose use of cross boundary work groups as a process for facilitating learning integrated with and parallel to solving problems in the multi-organizational workplace.

Keywords: Learning, Work Groups, Cross Boundary

A challenge all organizations face is to achieve their goals in a rapidly changing business environment and at the same time maximize employee potential. As work organizations and the work they do becomes more complex and competitive the decisions and actions of individuals are within a work group context. Teams are the focal point of how organizations are engaging in learning tasks through strategic planning, process improvement, or developing and improving new services (Gray, 1989; Parker, 1990, Brooks; 1992, 1994). Problem solving in teams has gone beyond organizational walls to accommodate the nature of today's business problems. Staffs cross boundaries when they work as groups of individuals assigned either short or long term to solve a problem through collective discussion and inquiry (Watkins & Marsick, 1993). A cross boundary work group is the explicit heterogeneous, either/both in work roles or organizations, mix of adults engaged to participate in the above stated activity (Carkhuff, 1996). Given the nature of today's workplace wherein work often occurs cross organizationally there is a need to understand the potential for such cross boundary work groups as processes for facilitating real-time learning while solving organizational problems.

Problem Statement and Theoretical Framework

One of many workplace environments undergoing work reorganization is health care. This particular industry is in the process of redesign and upheaval due to the impact of managed care. The missing element in most health care delivery systems is a virtual lack of integration of these components (Tapscott, D. & Caston, A., 1993;Witt, Kieffer, Ford, Hadelman, & Lloyd, 1993)

The health care work environment is shifting from within institutional walls to working with the extended or integrated delivery system of care that spans across geographic regions and across organizational lines. This creates particular challenges from a human resource perspective for the preparation of staff and the possibility of utilizing this forum as a learning experience for personal, professional and organizational benefit. From particular studies in the literature regarding learning as a collective team activity there is focus on the adult learning process (Dechant, Marsick, & Kasl, 1993); notion of dialogue in collective team learning (Cicourel, 1990; Dixon, 1994); capture of reflective and communicative behavior (Purser, Pasmore &Tenkasi, 1992); distribution of formal power to individual team members and the collective team-learning outcome of productive useful new knowledge (Brooks, 1994); and a study of factors affecting group learning with a distinction between learning and task in relation to group purpose (Marsick & Kasl, 1997).

Due to the extensive literature regarding teams and learning I investigated scholarly critique to provide direction for study. Suggested areas for research was: (a) should be conducted to examine team learning within different contexts; (b) teams that reflect on, critique and develop strategies to change organizational structures and policies; (c) organizations that have the intention to change unproductive ways of organizing themselves for work in organizations, (Brooks, 1994) and (d) research needs to be carried out with groups in their natural context rather than artificially constructed groups in laboratories (Hackman, 1987; Goodman, Ravlin, & Schminke, 1990). This study addressed these research needs in the following way: (a) within the natural context of workgroup activity rather than artificial; (b) chose a cross boundary work group that was charged with improving the way in which care is delivered to a population of patients to maximize impact; and (c) examined a work group that developed new protocols.

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Theoretical Frame

Traditionally, workplace learning was thought to be basically instrumental or learning from one's own experience, which could lead to a repetition of mistakes (Argyris & Schön; 1974; Watkins & Marsick, 1993; Argyris, 1994; Brooks, 1994). Today the ways we make meaning of ideas, distribute privilege and power, are held accountable to validity testing through rational dialogue. Communicative or dialogic learning is explained as achieving coherence, a critique of relevant social norms, cultural codes and a critique of the assertion itself. As such, meaning is validated through critical discourse, and each item of relevant information becomes a building block of understanding (Mezirow, 1996).

I looked to the reflective learning theory literature to provide a foundation for the study. By definition the focus of reflection is not a purely internal thinking process, but also involves action. What gives reflection its' character and significance is thought-in-action immersed within a context. The process of reflection and critical reflection helps us to adjust the distortions in our beliefs, and our errors in problem solving (Schön, 1985, 1987; Mezirow, 1991, 1996).

Within a work group context, reflective learning becomes generative of new thinking as members challenge one another's thinking, reframe their perspectives, and build on integrated perspectives to construct new knowledge (Mezirow, 1991; Marsick, Dechant & Kasl, 1993). Learning through critical reflection provides a transformation of personal frames of reference, and can be described as a "holistic" blend including personal development, work related knowledge, and skills (Marsick, 1991, p. 24). Research tells us that reflection and action promote inquiry, that aspects of adult learning process such as framing, reframing, experimenting, crossing boundaries, and integrating perspectives are characteristic of the collective team learning process (Dechant, Marsick & Kasl, 1993; Brooks, 1994). The purpose of this study is to add to our understanding of a particular type of team learning environment, cross boundary work groups, to investigate the links between individual learning and collective team learning

Research Questions

The main question for the study was: What are the meanings for participants while working within a cross boundary work group? To guide the study I sought sub-questions as research indicators from the studies in current literature to see how the emerging data compares using an adult learning lens. These sub-questions were used in comparisons after the first interview during the observations and prior to second interview questions during the data collection and analysis procedures.

The sub-questions and their connection to the literature are: (1) How do the participants perceive their assumptions about learning affect collective work group learning? This question comes from the reflective learning theory base (Mezirow, 1991, 1996) in the form of open-mindedness, reflection to test and refer back to assumptions, interpret the unfamiliar relate to a meaning perspective, probing for assumptions, values, and beliefs. (2) How does the group share knowledge and ideas? Interactive team learning processes revolve around collective thinking and action. This question stems from the Team Learning Open Systems Model (Dechant, Marsick, & Kasl, 1993) in the form of framing/reframing perceptions, experimenting, crossing boundaries, and integrating perspectives. (3) How do differences in formal power distribution between individual work group participants affect the meaning for participants? Collective team learning process requires team members to carry out both active and reflective work, and communication is essential. This line of inquiry stems from Team-Learning Process Model (Brooks, 1994) looking at active and reflective work, leadership style, and power level.

Methodology

The qualitative, phenomenological method was selected as the appropriate methodology to support the investigation of meaning or how the participants interpreted and made sense out of their work group experience (Bogdan & Bilken, 1982; Denzin & Lincoln, 1994). The setting for this study was natural and the key instrument was the researcher. As the researcher I was concerned about the process of the group experience, of what this experience has become for the participants, and what has changed for them because of this cross boundary work group experience (Bogdan & Bilken, 1982).

Study Population

The particular cross boundary work group called the Diabetes Awareness Team, or DAT, was selected based on the criteria of an effective group (Goodman & Associates, 1986) and was comprised of a collection of eleven participants from four competing health systems and one business setting covering a geographic region of patient care. The participant mix ranged from four to over twenty-five years of work experience and included all members of the work group. Their roles were as follows: Diabetic Nurse Educators, Home Health Nurse, Pharmacist, Rehabilitation Specialist, Health Promotions Administrator, Business Executive, Community Health Workers, and a Staff Development Specialist. The participants included nine Caucasian members, one African American member and one Latino member. They were charged by their respective organizations to work together to improve the health status of the diabetic patient population assessed to be at risk within their particular geographic region of care (Smith, 1994). The health care organizations and the professionals had a history of turfism regarding caring for the diabetic patient to protect their respective market share. The goal of the DAT was to improve the diagnosis, reduce complications and cost of treatment for the patients with diabetes across the region through education, collaboration and partnering as organizations.

Data Collection and Analysis

The data collection was divided into two phases. Phase One included: a) pilot interview and subsequent refinement of the interview tool; b) the initial sixty minute interview regarding social-biographical information, past work group experiences, and a problem solving critical incident (Flanagan, 1954;Ericsson & Simon, 1980); five work group observations with field notes; and document analysis of all agendas, reports, and meeting minutes. I focused on gathering information from the participants utilizing the elite interviewing technique prior to their work group experience to investigate the meaning of their experiences regarding previous problem solving, past work group experiences and their assumptions about working in groups as well as the role of the facilitator and group members (Dexter, 1970; Maxwell, 1996) The problem solving critical incident exercise gave a snapshot of their past experience in learning. The main concept from each interviewee's critical problem solving incident was extracted from the data and verified through the member checking process. This data provided a foundation to understand the background of the DAT work group members, their assumption base and the meaning of past problem solving.

I attended all work group meetings over the six-month period and took field notes attending to recording observed behaviors on the activities and work of the individual members and the group as a whole. I related this to the initial interview information to validate information gathered, and to plan for clarification and additional questions based on the observations during the Phase two interview. The use of sub-questions was employed to provide an understanding of the data links to the literature utilizing the adult learning lens. I collected records, i.e., agendas, reports, meeting minutes, of the DAT work group to provide another data source to compare with the interview and group observation data. Data were analyzed from all Phase One data, using member checks and triangulation of data sources.

At the conclusion of the five work group sessions I conducted the Phase Two ninety-minute interview with all eleven participants, focusing on the work experience and problem solving in the DAT as experienced and told by the interviewees. In order to understand how they organized interpersonal and intrapersonal experience, real-life situations were elicited by having the interviewee respond to eleven index cards that listed a concept or idea involving learning while problem solving. The interviewees were asked to respond to these ideas and concepts as it applied to their work group experience. They were also encouraged to complete blank concept cards with any other concepts that were offered based on their work group experience. These reactions provided data to further explore the interviewee's underlying principle of meaning-coherence (Patton, 1990). Questions were asked to clarify observations and to draw out their stories.

All Phase One and Phase Two data were analyzed in light of the multiple data sources. Data analysis was a continuous process in that I analyzed data as I gathered it, adjusting and expanding the observation and interview strategy. I identified meaning units, coded the data, organized it in logical patterns identifying categories and constructed themes. I completed matrices to display relationships, and generate concepts for exploration. I verified authenticity of the data analysis through the triangulation and use of multiple sources (Lincoln and Guba, 1985), corroborated through member checks and peer review. I discovered patterns of belief as defined by the participants, and through thick, rich description provided a holistic picture of their experience in the DAT.

Results, Conclusions, and Limitations

The overarching theme from the participants whole work group experience was the essence of learning as a dynamic and complex system. The nature of learning as described by participants was a story based on their prior assumptions of what a work group should be, how learning had meaning for them, roles of the facilitator/leader, and member's own roles and responsibilities.

Major Themes

What was different for each of these members was the positions they held and the role that position played in their home organizations. I observed a unification of purpose in all work group meetings that transcended the competitive advantage or disadvantage. The membership valued expertise and freely networked with one another and provided insights into their home organizations, and shared knowledge and expertise. For example, the members shared with me that they regarded the experience, background, and knowledge that each member brought to the table regardless of their organizational representation, their job role with the organization and their source of expertise. This valuing of expertise was related to the perceived value to the impact of problem solving for the improvement of patient care for the regional population. The member's experiences of working together and learning while participating were integral and interwoven events, a dynamic system of inter-related parts that influenced each other.

Personal Learning

The notion of personal learning was fundamental to the experience of the DAT members. This learning included development from learner to educator in the group, growth through self-expression, self-discovery through the application of new knowledge gained in the group, growth in their willingness to link thinking and action to people and organizations, learning to change orientation from a loner to a collaborator, and shift in thinking from individual to organizational focus. For example, Peter related learning in the DAT as an opportunity to grow personally as he learned that problem solving requires collaboration," *I'm learning, I'm growing. And that's what this whole group is about* ".

Professional Learning

As members they all related to increasing their clinical and political expertise, acquired an "improved' view of themselves through the assumption of the role of "educator" in the group, experienced change through taking an active work role in the group and through the role of mentor. It was interesting that these shifts in role which was reciprocal to active work roles, and that all members expressed they learned greatly as professionals. For example, in the work group meetings there was sharing as well as a challenging of processes such as educational protocols for diabetics, new techniques for testing, new ways of evaluating program outcomes, and other technologies. All described learning through the sharing of expertise, decision-making processes of trial and error, and collaboration of ideas.

Learning as a Team Member

There was a pervasive feeling that the active and reflective work experience helped the participants learn as team members. The DAT meetings were sixty to ninety minutes in length in which the problem investigation process was noted throughout the meetings. I observed that Selena, Ellen, Willa, and Helen described "learning as a member of a team" through shared knowledge, the articulation of a clear goal, trial and error of coming to a solution, and by gaining an integrated view of the problem they were trying to solve. They expressed that having the diversity of membership provided a "rich place to learn", that this learning was constant throughout the course of the DAT meetings, and that they could apply it directly to their daily work in other groups.

Minor Themes

Learning: Shaped by the Interplay of Power

The power individual members brought to the group by virtue of their expert knowledge and life experience shaped the learning experience for themselves and others; and had influence on the outcome of the group work. As I observed the DAT members' actions and interactions in the work group meetings I saw patterns of fluctuating individual power levels, which was confirmed by the document analysis and member interviews. Despite their placement of themselves in various power statuses, the group perceived the power relating to knowledge as expertise in diabetes, whether as consumer or certified clinical expertise, was highly regarded. I observed many times that the power level of an individual member was directly related to the perceived value of their contribution to the work group goal. For example, Henny and Gloria remained at a lower power level until the last DAT meeting. Sally as facilitator reported the status of their active work for them instead of asking them to report to the group. During the last DAT meeting, Henny presented the flyers herself to the DAT because Sally did not know they were completed. The other DAT members immediately embraced the work they (even though Gloria was absent), had accomplished. Henny for the first time took an active role in the problem solving, and Sally was diminished to a medium power level for the entire meeting. Henny described this meeting as a pivotal point for her, she saw an *"opportunity to teach others"* regarding outreach to the urban citizens. Her experience in DAT shifted from the learner to the educator role, her power from low to medium level.

The notion of "virtual attendance" gave power to individual members, and collectively to smaller groups that worked together on active work. When absent the members used face-to-face interaction between meetings; technology and mail systems both inter-office mail between members in the same organization, electronic and voice mail between members of any organization; facsimile; telephone; and US Postal Service; to communicate, offer reports, and leverage influence to the group problem solving. I observed the power level of Ruth, Peter, Gloria, and Ellen move as more influential when these tools were used. In fact, the members were as "virtual members", never really absent due to their "virtual presence" at the meetings.

Centrality of Ethnicity in Learning

What DAT members learned was dependent on who they were, who they represented, and the culture that belonged to them. Minority members talked about identity that who you are as a person is reflective of your ethnic community. Henny explained her view of how her life experience was helpful to the DAT "I was looking at that as helping others that are sitting around the table as far as making them aware of what the minority needs are and what their concerns are. Something that they may not even be aware of." Gloria changed her perspective to find her way to a new understanding of how to deal with the indifference she thought she encountered:

> Just let me see what is there and make them understand the importance of them to help the Latino to make a difference in that committee. Not just for me as a person but for the committee because I know there is a great need to educate, to change their way of life.

Organizational Learning

Separate from the meanings but important to note, were the implications for organizational learning that occurred as a result of the outcome of the collective team learning. Learning from the cross boundary work group became translated into changes in the various organizations' thinking and ways of acting as seen by changes in policies, procedures and systems. An example of one change is as follows: Ellen described an increased communication between professionals, and organizations in the region. Not only did it change her organization's marketing within the region, but also impacted how the education patients received in her rehabilitation organization has changed due to her increased expertise from the work group experience.

Discussion

Learning through experience in the work group was very much a product of active and reflective work done within the context of the group, among and between the members. This study supports the idea of critical reflection and transformative learning as Mezirow (1991) and Brookfield (1991) propose. The DAT members were diverse but held similar assumptions regarding the role of a group member and the role of a group facilitator and as such were

comfortable performing in those roles. What was different about them was their level of expertise regarding the clinical and non-clinical issues; their beliefs about the relationship between the project event and the mission statement of the DAT; their specific and unique frames of reference and expectations about each other's organization, and the role that organization played in the care of the diabetic population. After working together for six months, the "culture" of the DAT supported sharing of differences such as members displayed open-mindedness through their general ability to listen to disparate points of view, be open-minded about issues, and work collaboratively on active work.

This study also uncovered data that support the four learning processes identified in the study of Dechant, Marsick and Kasl (1993). For example, the majority of the DAT members "framed" their work initially by separating the targeted diabetic population into project events by fiscal quarter instead of combining them. Those two separated groups were: (a) the Caucasian financially able population and (b) the at-risk urban African-American and Latino populations. This grouping occurred through selective planning, not by open announcement of intent. The minority members noticed this and challenged this approach during the six-month work group sessions. As the work group experimented and crossed boundaries dialogue led to reframing of direction to be in sync with the mission to target the under-served as well as the African-American and Latino at-risk populations forming a new mental construct.

Within the work group, there was significant growth in the individual's willingness to link thinking and action between members, which meant between organizations. That there was an integration of perspective was outstanding, as political pressure between competitors and competition between individuals as experts in the field of diabetes and differences between ethnic groups was apparent at the start. The unifying belief and value of concern for the patient helped to build trust and promote dialogue. Unlike the literature, this study provided an in-depth view of individual learning as well as insights regarding collective team learning and organizational learning. Individual learning was different for each member, but they all learned through the mechanisms of opportunity for growth, problem investigation, collaboration, and listening to other points of view.

Another concept different from the reviewed literature on team learning was the notion of "learner" and "educator". Members transitioned between being either the "learner" or the "educator" during specific meetings and between meetings. This shift always included an opportunity for learning and happened as a result of mentoring activities between members, during the learning processes, and connected to the active work role

What was different about what this study uncovered was that individual learning was multifaceted and reciprocal to collective team learning. Several work group members experienced significant transformative learning that changed their personal lives, their role as professionals and their contributions as team members. This study supports the notion that the learning in the cross boundary work group was insituated, or occurred during the work process, it impacted their view of life, their approach to current and future work, and the expertise they held as professionals.

Brooks' (1994) research described the distribution of formal power as a critical lever in the successful production of knowledge by teams. Her research addresses the concept that formal power assigned by organizations either supports or excludes employees from carrying out the reflective or active work of team learning. In clear contrast to Brooks, this study uncovered what happened to individual member's power inside the work group, and the affect on their learning. In this context there was a unique set of circumstances that provided movement within the three levels of low, medium, and high power for individual members, and the direct influence of their status from this level to the output of the team.

A concept uncovered in this study and missing in the literature on team learning is that of "virtual attendance." This phenomenon enabled an equalization of power between those present and those absent. The relationship of this power equalizer to individual learning and team learning was significant. It provided a mechanism for individuals to maintain their status in the work group and provided a way to continue active work despite being physically absent.

The team learning literature has a silent voice regarding the ethnicity of members and the relationship to learning within the team, and how that contributes to the collective team learning. The members that represented the minority ethnic groups in the cross boundary work group interpreted work and problem solving in this setting through the lens of ethnicity, and were indeed the "voice of their communities." Minority race members were treated in ways by the facilitator that were different, such as they had less of an active voice, and they interpreted the active work as members of a different racial background assessing the work group outcomes for impact to their respective ethnic community. Minority members attached the meaning of formality to the use of reports and agendas that signified superiority, separateness between minority and non-minority work group members.

The findings of this study are limited due to the nature of the methodology utilized, that is the naturalistic paradigm, in that the primary concern of the qualitative research is to discover meanings of certain phenomenon, and these meanings are context-bound.

Contributions to Research and Practice

This research generated new knowledge related to: (a) adult learning in cross boundary work groups; and (b) use of cross boundary work groups as processes for facilitating learning integrated with and parallel to solving problems in the workplace; and (c) relationship of formal power of the members to the active and reflective work of the group. This study may help to define these work groups as learning groups. The diverse nature of cross boundary work groups is important to the field of Human Resource Development because of the potential for reciprocal multi-organizational learning to take place.

Methodologically, learning while working in a cross boundary setting works, and is worth consideration as a learning tool in the workplace while solving inter-organizational problems. It may lead to increased organizational capacity, and the ability to adapt to the ever-changing environment surrounding health care. Individual members described a deep personal learning wherein transformation of ways of problem solving in groups was evident, meaning schemes were changed, assumptions were challenged, and personal theories about work group experience were altered.

Those responsible for organizational or service line planning need to be informed that there is the capacity for generative professional learning through shared expertise between disparate and competing work organizations utilizing the cross boundary work group approach to problem solving. Cross boundary work group opportunities need to be identified by administrators responsible to assign employees to inter-organizational work groups.

Cultural diversity training is important to enable practitioners to be skilled in understanding the relationship of ethnicity, or race, and culture in the work group environment. As facilitators they need to be consistently prepared to assist work group members with the reality of their changed perspectives, provide support to them as they re-enter their work role.

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Designing Dispute Management Systems

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Conflict is a growth industry in our neighborhoods, our communities, our workplaces, our government, and amongst ourselves. We live in times of intense change and change creates conditions ripe for conflict and dispute. While we can not eliminate either change nor the conflict that results, we can choose how we handle conflicts. The challenge is to design and implement management systems which can modify the forces of change productively. Properly designed dispute management systems offer maximal organizational assistance for the mutual benefit of all stakeholders.

Keywords: Conflictt, Dispute, Resolution

Perhaps it is a paradox that one of the few constants in organizational life is change. Peter Vaille (1989) has suggested that all organizations exist in an environment which could be typified as "whitewater". An environment in which both internal and external environment in which the firm (organization) operates changes continually. In a world of increasing competition for many business organization in which the nature of the business demands evolving its operating procedures, and even its organizational culture to address the changing environment; the result in many cases has been conflict both within the organization (inter-personal, intra-group, and inter-subsystem), externally (inter-organizational with suppliers and competitors) and with customers.

Operating in environments in which businesses are opened, closed, merged, bought-out, downsized, right-sized, and re-engineered; there is ample opportunity for conflict and disputes to arise within a business organization. Therefore, a key challenge to the management of any competitive organization is the question of how to deal with conflict in the workplace and between the business and its customers (both internal and external).

Society Needs to Shift Its View of How Disputes Are Resolved

Many people - including judges and lawyers - believe that there is a litigation explosion involving too many frivolous law suits or other legal actions which seem more appropriate to being handled outside of the courtroom. Litigation is widely seen as a poor way to determine the truth, that it harms relationships, it is too costly, and it takes too long (Umbreit, 1995).

Expand Dispute Resolution Options

Many courts are now actively referring cases to mediation either at the time of filing or doing the settlement phase. Dispute management professionals then have an opportunity to intervene to settlement the matters in conflict before the parties initiate a cycle of emotional states not unlike that grief counselors experience with their clients. This "resolution cycle" is also known (depending upon the discipline) as the trauma or grief cycle in which the participant(s) move through a series of emotional states: shock/denial; bargaining, guilt, fear, depression, anger, acceptance/resolution.

This resolution cycle works in groups, organizations and nations as well as individuals. However, the resolution cycle is present in every significant conflict or dispute, including those which appear intractable i.e. international border disputes) and those" settled" by the legal system. When groups, organizations, cultures, societies or nations are presented by threats arising from conflict that send them or present the possibility of sending them into exile into armed conflict; they attempt bargaining and experience guilt, fear, and anger. Finally when or lose, they go through acceptance and or resolution.

However, this resolution cycle does not just apply to severe emotional loss or conflict. The stress of changing jobs, or facing organizational downsizing or even obtaining a mutually agreeable divorce or an automobile accident can trigger the cycle. The resolution cycle is part of the normal human and organizational coping mechanism, and is a significant factor in the design of many alternative dispute management systems.

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Many organizations and organizational members when faced with environmental stress within the organization invariably go through the first parts of the resolution cycle (shock and denial); bargaining (with each other or other forces); guilt (collective or individual); anger and depression. They may go experience these steps in almost any order and may go through the steps more than once as events are played out. However, without the help of HRD professionals and appropriate intervention strategies, including an appropriate dispute management system, they may not be able to satisfactorily reach the last stage of acceptance/resolution - whether or they "win" or "lose" the conflict. Without resolution they have not come to an end of the dispute regardless of what has been the formal or informal settlement or how the other party (or parties) feel regarding closure or resolution. A cross-disciplinary approach that recognizes that this cycle is present can facilitate settlement. By being aware of the resolution cycle, those designing and administering a dispute resolution system can guide the parties through not only the formal structural issues but also the emotional issues as well.

Many courts now refer cases regarding divorce child custody, visitation rights, spousal support), community disputes, teacher-student conflicts, sexual discrimination/harassment in the workplace, and victim-offender (restorative justice) to alternative dispute resolution arenas. The courts have come to realize and value the need to allow the parties to not only reach a mutually agreement settlement but to progress the emotional resolution cycle as well. Further, some disputes have benefited from the early intervention of a neutral evaluator to assist the parties to focus on key issues early on in order to save time, money, emotional distress, and to contain the scope of the dispute.

Another way to reduce litigation is to resolve the disputes promptly in the institution or organization in which they arise. Dispute management professionals and systems can apply principles of dispute system design in schools, businesses, government agencies, and virtually every other type of organization. These dispute procedures can be designed to focus directly on satisfying the parties basic interests as well as they emotional needs without creating battles or will or major legal fights. Further, even as the disputes (or potential disputes() make their way through institutions and organizations, people can learn how to listen, how to express themselves respectfully, and how to solve problems cooperatively. Here then is an opportunity for HRD [professional to assist in the design, operation, management, and education of conflict management systems for the mutual benefit of all stakeholders: individuals, organizations, institutions, and society. nations

The Nature of Conflict and Dispute

While it is customary to refer to conflict management and dispute resolution as if they were the same thing, they are, in fact, different. Conflict is the result of a process that gives rise to a dispute. The dispute is the result of conflict. Ury (1988), Fisher (1991) and Umbrecht (1995) all suggest that conflict results from the perceived need for change in the status quo by one party and resistance to change or the need for the change by another (individually, as a group, as an organization, or even as a nation). They suggest that conflict has three pre-conditions that are necessary in order to conflict and therefore, for a dispute to arise: (1) an interdependent relationship must exist between the parties, (2) a perception by one or both parties that their goals (expected outcomes of their interactions) are dissimilar, and (3) a perception that one or both parties are preventing the other from achieving their desired outcomes and/or goal(s).

Fisher and Ury (1991) have classified disputes and conflicts into three broad headings; (1) rights-based, (2) interest-based, and (3) power-based. To this list, Umbreit adds disputes based on the psychological needs of the disputants (for example esteem and fairness issues).

POWER	RIGHTS	INTERESTS
Political	Legal	Substantive
Economic	Collective	Procedure
Moral	Individual	Psychological
Social	Ethical	Societal

Ury and Fisher (1991) suggest that conflict is neither good nor bad. It should be perceived, therefore, by an organization (and organizational members) as a fact of organizational life brought about by the nature of the changing and evolving environment (both internal and external) in which the organization operates. The result should be for the organization to deal in a positive manner with the forces for change which give rise to conflict within the organization and between the organization and its external environment.

Even if the organization fails to adopt a conflict management system, it still is faced with conflict. They can try to deny it, quash it, bury it, ignore it, or deal with it in a positive ad productive manner. Organizations which choose to ignore or deny the existence of conflict and pretend they are "one big happy family", perhaps, a dysfunctional family, but still a family (Cummings and Worley, 1993) overlook the results that unresolved conflict can have within the workplace and with customers and suppliers. In *Winning Through Accommodation* (1983) Evarts noted that unmet needs for conflict/dispute resolution can be manifested in several ways:

- Interpersonal disputes between employees, between employees and supervisors, between teams within the workplace, between divisions or subsystems within the firm, between the firm and its customers, and between the firm and its suppliers.
- These disputes, whether acknowledged or not, lead to litigation.
- They can lead to worker slowdowns, either intentionally or unintentionally.
- They can lead to sabotage either through destruction of vital work components or through more subtle methods such as withholding vital information, rumor generating, adverse publicity, complaints to regulators, efforts to subvert the operations of another division or team.
- Low morale amongst employees and line workers through top management. This in turn can lead to rapid turn-over and/or loss of productivity.

In short then, conflict is a natural occurrence of the changing environment in which organizations operate. By itself, change and the conflicts which may result which lead to disputes are of themselves, neither good nor bad. They just are a natural occurrence of the operations of the organization. The critical question is what the organization does to deal with conflicts and disputes.

Organizational Development Theory

Organizational development theory (OD) has been developed , in part. as a response to the needs for organizations to address the need for change within the organization (attitudes, structures, procedures, and culture,) in a planned manner consistent with the principles of the behavior sciences (Cummings and Worley, 1993). Beckhard (1977) and Harris (1977) define OD as the planned study of organizational structures and procedures in order to promote the growth and development of the organization in a manner which further the competitiveness, efficiency, and health of the organization. McLagan (1983) further suggests that OD has a principal purpose the need to systematically address issues regarding inter-personal and inter-group conflicts.

Clearly then, OD theory (and Human Resource Development theory, in general) offer tools which can be utilized to address issues of conflict with an organization. Especially noteworthy are the contributions of Lewin regarding organizational change theory, Beckhardt regarding open systems theory, Argyris regarding the role of the intervener in designing and managing organizational change, Emery and Trist (1973) regarding socio-technical systems approach to OD, and Senge (amongst others) regarding the creation of a learning organization.

Taken together, OD theory has evolved from simply a theoretical approach to organizational change and change management (including conflict management) to one in which theory is applied to practice (and vis versa). This idea of applying theory to practice and practice in the formation of additional theory, is referred to my some as Action Learning and is fundamental to Senge's proposal for a creating learning organizations. Further, action research has given rise to a model for OD planning and intervention which is useful for the design of conflict management and dispute management systems.

The model has seven critical elements:

1. Entry and Discovery
2. Research and Data Gathering
3. Action Planning
4. Implementation

5. Evaluation
6. Dissimilation
7. Exit

During the entry and discovery phase the consultant would meet with top management and determine their perceptions of the problems and issues facing the organizations. What do they regard as the problems and the causes of the problems? Agreement also must be reached as to an action plan for investigation of the organization (research and data gathering, plan development, plan implementation and evaluation and dissimilation) and a commitment to implementing the action plan once it was developed.

The second phase is the research and information gathering phase. It is common for the views and experiences of top management to be both accurate and inaccurate regarding the extent and nature of conflict issues within the workplace. That is, they may be focused on the results of conflict and disputes a as the problem rather than the result of deeper more structural, cultural, procedural, or environmental problems. Further, they may or may not realize that top management and management policies are the cause or the result of the conflict (they may be in denial or unaware). Therefore it is necessary and appropriate to engage in research and data gathering activity to determine, objectively, the nature of the conflicts, their causes, their extent, and their affects on the operations of the organization.

The third phase, the action planning phase, requires the gathering of relevant information from throughout the organizations regarding proposed solutions to the conflicts. Since it is the stated goal of the organization to not just address the conflicts and disputes but to also design an on-going system to handle conflicts in the future; the focus of the action planning phase is aimed at this wider objective and will involve input from throughout the organization.

This action planning phase serves to highlight the advantages of an OD approach to the design of conflict management systems since OD practitioners place a high value on humanist approaches to problem solving, organization-wide involvement, participation and support from top management, voluntary participation in the data gathering/discovery and action planning phase, and confidentiality for all participants. It is an inclusive rather than exclusive process involving all segments and operation of the organization and not just top management. It involves a review of the structure, attitudes, operations, policies, culture, and environment (internal and external) of the organizations. It will involve customers of the firm, again, both internal and external.

This action planning phase also highlights the fundamental principle of OD in which an organization typically falls within a spectrum ranging from open to closed. Beckhard (1977) noted that many organizations (open) are very aware of the environment in which they operate and seek input from the environment in determining operational policies and in designing and redesigning (adjusting) such policies as the environment changes, is changed, or evolves. Open system organizations are also well aware of the interrelationships between subsystems within the organization (accounting, marketing, human resources, customer relations, production, legal, etc.). They are also aware that many individuals, teams, groups or subsystems over-lap or are trans-organizational and interactive. Gaining input and support from across and throughout the organization then is recognized as crucial for the smooth and appropriate operation of the organization. They recognize that conflict as a process, and disputes as a result of process, can be minimized by remaining open to multiple sources of information within the organization.

Closed Systems, on the other hand, do not seek input from the environment and make decisions internally (typically top management) without concern for the environment (internal and external) in which the organization operates. These organizations also may demonstrate a "warrior" mentality in which the organizational, group, individuals, and subsystem conflicts are largely ignored or are confronted and settled through resorting to power, authority, rules, regulations, law (including litigation) and prevailing, historic organizational practices. They also may choose to ignore or deny conflict either through eliminating the conflict (firing an employee, for example) or simply issuing a management mandate.

An alternative approach to the "fight" response organization, is the "flight" response organization. Here, they too ignore the systemic aspects of conflict (and the need for a viable conflict management system within the organization) by compartmentalizing conflict. Conflicts and disputes are classified by managers and then shipped off for resolution to accounting, customer relations, production (or quality control), the legal department, human resources/personnel, or the union/collective bargaining agreement.

Key Features of a Conflict Management System

As indicated above, by using an OD and Open Systems approach through action research, a more comprehensive and long-term approach to conflict management can be developed. Fisher (1991), Ury (1988, 1991), Umbrecht (1995), Carver (1994), Costantino (1996), Cummings (1977) and others have identified several key elements in designing conflict management systems and in their operation. The first element is a recognition of the need for a hierarchy of alternatives to address conflict and disputes within the organization. These alternatives are arranged from low-cost/low-risk to high-cost/high risk. This hierarchy mirrors a continuum from highly informal to highly structured. The second element, is a system which would allow disputants to move up the hierarchy as the need arises to address some or all of the issues in disputes (rights, power, interests, and psychological needs). Also, they have the right or opportunity to move down the hierarchy ("loop-back").

It is also critical to have a system which acknowledges that prevention of conflict and dispute is preferable to having to manage conflict. This would involve the development of alternative dispute resolution training at the individual worker level (interpersonal disputes), group level (inter-group disputes) and between management and employees. Included in this is training to all parties in communications skills, stress reduction, and marketing of the conflict management system within the organization.

Should a dispute arise, the first option would be to a negotiation level between the parties allowing them to achieve work-out agreement amongst themselves. Failing this, the second step would be for a facilitated method of dispute resolution with an outside expert (that is outside to the dispute), but the resolution still rests with the disputants. Third step might be to a fact-finding level at which the third party (a neutral to the dispute again) would engage in a discovery of relevant facts and issues. The settlement of the dispute would still rest with the disputants, but the fact-finder might offer an option regarding the likely outcome if the dispute moved to the next higher level. That higher level would be mediation. Here again a third party would work with the disputants to reach a satisfactory solution, again acceptance of the resolution rests with the disputants. Finally, the dispute would become the subject of arbitration in which the third party made a formal ruling or determination regarding a proposed solution. This finding may or may not be binding on the parties, but it would offer them an opportunity (as in mediation) to consider input from an objective, outsider to the dispute. Frequently in the case of both mediation and arbitration this third party can render expert judgement on the dispute and the likelihood of resolve at the last level, litigation.

As part of the design and education process, the consultant would promote the design of a system (including education, marketing negotiation, mediation, fact-finding, and arbitration) which emphasized several key elements in conflict/dispute resolution efforts. These elements as reflected in the philosophy, experience, research and practice of, amongst others, Ury, Fisher, Umbrecht, Consentino, all emphasis certain common characteristics:

1. Focus on the issues in dispute not personalities, not authority, not positions or power;
2. Keep the focus on the interests of the parties not the people;
3. Use objective criteria in assessing and describing the conflict and proposed solutions;
4. Remain solution focused but also allow for the venting of emotions;
5. Allow for the disputants to either retreat to alternative (low-risk lost cost alternative) or to simply terminate the discussion recognizing that the may see a better alternative to a negotiate settlements as being in their best interest;
6. Design a system in which the disputants have access to advise (consultation) before and during the process of resolution and to feedback after regarding both their assessment of satisfaction with the settlement and its implementation.

Based upon input from throughout the organization regarding the need for a conflict management system (which has an education, training and marketing component) and recognizing and reflecting the key elements for the design and operation of conflict management systems above; an action plan can be developed and preliminarily implemented. Based upon feedback from throughout the organization regarding their satisfaction and their experience with the system, an evaluation can be made of where changes are necessary and appropriate or where additional training in dispute resolution or marketing of the system is necessary.

Once the system has been found acceptable to members and groups (stakeholder) throughout the organization and perhaps others (suppliers, external customers, regulators, etc), then the conflict management system can be implemented (disseminated) throughout the organization and institutionalized.

At this point, the consultant may exit the organization and the organization can operate the system, bearing

in mind that they may have to modify the system over time as the needs of the organization change. Further, a continuing needs exists for training in dispute and conflict management strategies, communication skills, group interaction skills, and for marketing the conflict management system in order to prevent minor disputes escalating into major disputes (interpersonal, inter-group, intra-organizational, or systemic).

The Conflict Management Spectrum

Unassisted Problem Solving	**Assistance by Neutrals**	**Advisory Assistance**	**Third-Party Decisions**	**Litigation**
Avoidance	Facilitated Negotiations	Early Neutral Evaluation	Binding Arbitration	Lower Courts
Day-To Day Discussion and Interaction	Consensus Building Through Informal Mediation	Fact Finding	Administrative Boards and Commissions	State Courts and Appellate Courts
Normal Business Meetings and Encounters	Formal Mediation	Nonbinding Arbitration	Court Ordered Special Studies or Masters	Administrative Law Judge
Informal and Formal Business Information Exchanges	Court Appointed or Ordered Alternative Dispute Programs	Dispute Resolution Boards	Binding Court Ordered Settlement	Federal Courts
Problem Solving Sessions	Settlement Conferences	Summary Court Judgement (By Judge or Jury)	Mediation and then Arbitration	Supreme Court
Partnering (may involve facilitator)	Team Building			

Conclusion

Organizational conflict must not necessarily be reduced, eliminated, or avoided, but managed to reduce its dysfunctional outcomes and enhance its functional outcomes for all stakeholders involved. The management of interpersonal or organizational conflict involves the proper diagnosis and the intervention strategy into the conflict. A comprehensive diagnosis involves the assessment of the nature of the conflict, the source of the conflict, the depth and stage within the emotional resolution cycle, and the extent to which the conflict involves individuals, groups, the organization or inter-organizational conflict. The analysis of intervention strategy involves an appropriate assessment of how to intervene and when to intervention. This intervention strategy must include the establishment of a dialogue between the intervener and all of the parties to the dispute.

However, just as water is ever present in our physical environment, conflict and the potential for conflict arising from change forces upon organizations can lead to disputes. Further, just as water in the right proportion can be a stimulant for growth, conflict can also be a positive growth force for organizations. However, to much water or too much uncontrolled conflict can prove destructive. Systems exist to deal with high levels of water, systems can also exist to deal with change, conflict and disputes,. It is imperative that organizations design and operate appropriate conflict management/dispute resolution systems if they are to channel the forces for change in response to environmental and systemic needs in order to stimulate the growth of the organization. Left unchecked water is a destructive force of nature, unfortunately, left unmanaged, conflict in the workplace can also be destructive, and like natural disasters, lives have been lost due to unchecked conflict. OD and HRD can offer organizations tools and techniques appropriate to dealing with change and change management.

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The skills and knowledge of OD practitioners can be utilized to develop appropriate conflict management systems. Through the use of an appropriate action research planning model and an open systems approach to business operations utilizing the fundamental principles for the design and operation of conflict management systems, a suitable system can be developed for a workplace situation. It is not necessary quick, easy, or even painless for some businesses to do so as flaws in the organizations structure, policies, cultural, artifacts and history may be revealed. But the resulting system for managing conflict will serve the organization well in the long term.

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Application and Test of a Model of Team Effectiveness to Self-Managing Interdisciplinary Psychiatric Treatment Teams

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This study tested a causal model of self-managing team performance in the context of interdisciplinary psychiatric treatment teams. The findings showed 1) team design factors, indicated by level of task clarity, shared team mission, and leadership support, positively influenced work process; 2) interpersonal process factors did not influence work process; 3) work process was a significant predictor of team performance. The general pattern of relationships supported the hypothesized model.

Keywords: Teams, Team Models, Teamwork Process

Interest in and use of self-managing teams in organizations has increased dramatically. In 1987, 28% of the Fortune 1000 companies reported using self-managing work teams (SMTs) with some employees. By 1990, that number had grown to 47% (Cohen, Ledford, & Sprietzer, 1996). Organizations are increasingly turning to SMTs because they often offer a competitive advantage. Evidence indicates SMTs can enhance productivity (Guzzo, Jette, & Katzell, 1989), contribute to cost savings (Wall, Kemp, Jackson, & Clegg, 1986), and increase employee satisfaction (Cohen & Ledford, 1994). Case studies have shown employees working on SMTs produce more than those organized in more traditional, hierarchical structures (Hackman, 1990). Such teams are effective decision-makers because those who are closest to the work make the decisions (Ray & Bronstein, 1995) and are capable of high levels of innovation and creativity. Because SMTs handle a large degree of their own management responsibilities, fewer first-line supervisors are needed, and they are able to complete as much or more work at a lower cost (Yeatts & Hyten, 1998).

SMTs are groups of interdependent employees that operate in an organizational context who are responsible for managing and performing tasks that deliver a product or service (Yeatts & Hyten, 1998). Key characteristics include (1) task interdependency; (2) responsibility for product or service delivery; and (3) decision-making authority over task objectives, work assignments, work methods, and task scheduling and monitoring (Goodman, Devadas, & Hughson, 1988). SMTs are best distinguished from work groups and task or project teams by their high levels of interdependence and accountability in addition to their typically long-term purpose (Yeatts & Hyten, 1998).

SMTs have a long tradition in health care organizations. In this context, SMTs (1) provide a structure that helps guarantee a coordinated, 'whole client' treatment approach; (2) enhance interdisciplinary communication in the face of increasing professional specialization; (3) are often required as a response to legislative mandates aimed at improving the quality of patient care (Ducanis & Golan, 1979); and (4) help insure more continuity in service provision in high burnout, high turnover fields such as community mental health (Bond, Pensec, Dietzen, McCafferty, Giemza, & Sipple, 1991).

Models of Team Effectiveness

Models of team and work group effectiveness have proliferated in recent years. Most of these models have been designed for application to work groups in general, not to SMTs specifically. For example, Tannenbaum, Salas and colleagues have produced two models of team performance both addressing teams and work groups in general (Salas, Dickinson, Converse, & Tannenbaum, 1992; Tannenbaum, Beard, & Salas, 1992). Campion, Medsker, and Higgs (1993) developed taxonomy of characteristics or 'themes' that are related to the effectiveness of work groups in general. Hackman's (1990) model of work teams in organizations broadly defines its' domain as 'real' groups operating in organizational contexts with one or more tasks to perform. Although this model has been applied to SMTs (Vinokur-Kaplan, 1995), it is clear that SMTs are not its exclusive focus. In general, these and other models have not clearly specified the types of teams to which they are most applicable. Although research with these models has been able to explain significant variance, much remains unexplained. This may partially clarify why work group research has been able to provide an extensive list of variables that may be related to effective performance but has yet to reach agreement about what is truly important (Hyatt & Ruddy, 1997). There also appears to be a growing consensus that team tasks play an integral role in determining what is needed for effective performance (Bettenhausen, 1991; Hackman, 1990). The nature of team tasks is important because it determines how effectiveness is defined, determines the criteria of effectiveness, and influences which characteristics of team are most important in explaining their effectiveness. Given that different kinds of teams with different goals, tasks, and

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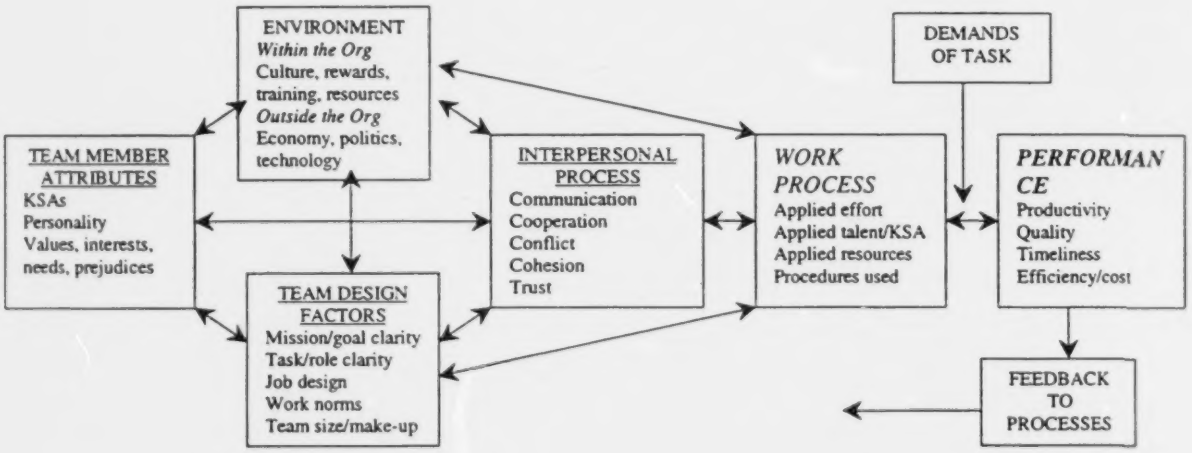
dynamics may behave differently, it is reasonable to expect that models of team effectiveness focusing more specifically on SMTs will have better explanatory power than those which address teams and work groups in general.

Yeatts and Hyten (1998) synthesized the research and conceptual work done with other models of team effectiveness to produce a model applicable to SMTs. Although the model was initially tested using a multicase, multimethod replication design (Yin, 1989), further research is needed to confirm the causal paths suggested and to establish the generalizability of the model to different settings. The model is shown in Figure 1.

Figure 1
Factors Affecting Self-Managed Work Team Performance (Yeatts & Hyten, 1998)



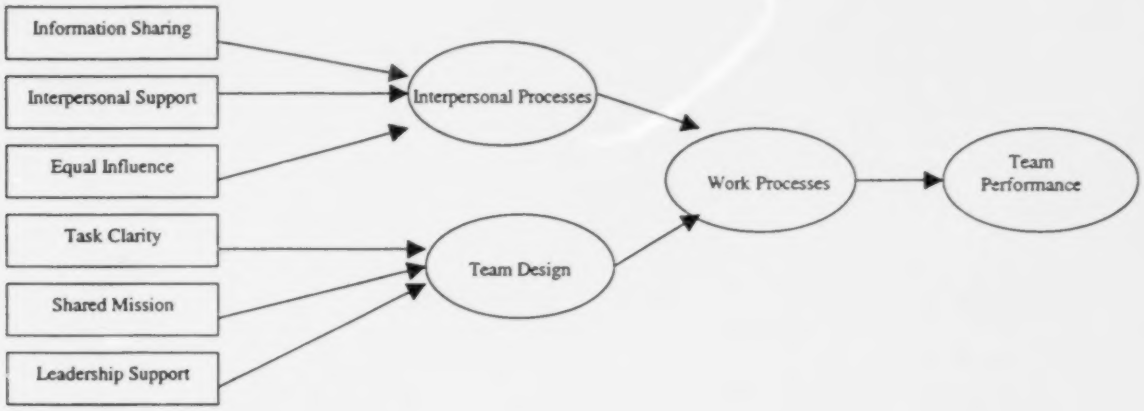
Like other models of SMT performance, the Yeatts-Hyten model is an input-process-output model that suggests a number of components or categories of variables can influence SMT effectiveness. Many of the components found in the Yeatts-Hyten model, such as environmental factors, team member characteristics, team design factors, and interpersonal processes, are also found in other models of SMT performance. Perhaps the major advance offered by the Yeatts-Hyten model over other models is the inclusion of work process factors as intervening variables between environment elements, team member characteristics, team design factors, and interpersonal processes and team performance. Work process factors refer to " the factors that are applied directly on doing the [team's] work, the procedures used for doing the work, the talent applied to the work (knowledge, skill, and ability), and the resources used to accomplish the work" (Yeatts & Hyten, 1998, p. 57). This set of factors represents the critical enablers of team performance in the sense that it here that a team's work is done. Most previous theoretical models of team performance have not included such intervening variables. Rather, they have tended to portray variables like interpersonal processes as having direct effects on performance outcomes. This conceptualization suggests that a team's ability to resolve conflict would directly influence key outcomes. Research by Yeatts and Hyten (1998) suggests such factors may enhance or diminish work process factors but do not directly influence outcomes. For example, given the desire for high quality treatment plans, a key performance outcome of psychiatric treatment teams, a team's poorly developed conflict resolution skills is seen as disrupting the work processes needed to formulate high quality, effective plans.

The purpose of this study is to test a portion of the Yeatts-Hyten (1998) model using structural equation modeling, with a specific interest in the role of work process factors as intervening variables. Specifically, this study examines the relationships between interpersonal processes, team design, work processes, and performance. Interdisciplinary psychiatric treatment teams are the focus of this study. These teams have a multidisciplinary membership that typically includes psychiatrists, psychologists, social workers, recreational or occupational therapists, nurses, and psychiatric aides. The teams are responsible for developing and implementing individualized treatment plans for patients with mental and emotional disorders. They exercise full authority over all aspects of patient care. Consequently, the team members have a need to communicate about patient status, diagnosis, and

progress with regard to short and long-term goals, treatment, and length of stay/discharge status. In short, psychiatric treatment teams are highly task and outcome dependent to the extent they must work together closely to perform effectively.

The model and variables tested are shown in Figure 2. The model shows that information sharing, cohesiveness, and equality of influence are indicators of interpersonal processes. Task clarity, shared mission, and leadership support were conceptualized as indicators of team design. Both interpersonal processes and team design are seen as influencing work process, which, in turn, affects team performance.

Figure 2
Hypothesized Model of Team Effectiveness



Concepts and Hypotheses to be Tested

A number of team design characteristics have important implications for SMT performance. Several authors (Hackman, 1987) have recognized that team effectiveness can be influenced by the degree to which team members understand their roles and tasks and the coordination of these for one common overall purpose or mission. Task and mission clarity can improve SMT effectiveness by improving the team's work structure, reducing role ambiguity, or improving coordination and communication (Tannenbaum, Beard, & Salas, 1992). The support team members receive from team leaders is also considered an important factor in team performance (Campion et al., 1993; Hackman, 1987). Team leader support can influence the stability of the team, the design of the work, the goals of the team, the availability of resources to the team, all of which can influence work process (Yeatts & Hyten, 1998).

Hypothesis 1: Team design characteristics will be positively associated with work process.

The ability of teams to optimize interpersonal processes has been identified by a number of authors as highly critical for SMT performance (Cohen et al., 1996;Tannenbaum et al., 1992). Work in SMTs requires that team members be capable of effectively sharing information, providing interpersonal support, and contributing to productive team decision-making and problem solving (Stevens & Campion, 1994). These core capabilities are believed to permeate all aspects of team functioning. For example, they influence team stability, the ability of the team leader to support team functioning, and the ability of the team to manage its own leadership. Yeatts and Hyten (1998) suggest its most profound influence on team performance may occur through the team's work process: the efforts, talents, and resources, and procedures applied to the team's work.

Hypothesis 2: Interpersonal processes will be positively associated with work process factors.

Yeatts and Hyten (1998) theorize that environmental, team design, and interpersonal factors moderate work process factors. They further suggest that work process factors (effort, talent, resources, and procedures) are important to team functioning regardless of task, although the demands of the task may moderate the amount of a work process factor needed to for effective performance. In the context of psychiatric treatment teams, the present

research tests the influence of work process on the ability of psychiatric treatment teams to develop high quality, effective treatment plans.

Hypothesis 3: Work process factors will be positively associated with team performance.

Method

Subjects

One hundred forty two mental health professionals representing 25 interdisciplinary treatment teams operating in three branches of a state mental health hospital were sampled for this study. Two teams (14 respondents) worked in a short-term care facility preparing short-term treatment plans for new admissions, stabilizing them, discharging them quickly or transferring them to a long-term care unit. Seven teams (44 respondents) were from a long-term care unit where they prepared, implemented and revised treatment plans for patients requiring long periods of care. Twelve teams (84 respondents) were from a forensic unit that prepared, implemented and revised treatment plans for patients with criminal histories who required long-term care. In all, the respondents were divided among nurses (13.8%), correctional guard/therapists (10%), psychiatric aides (19.2%), psychologists (10.7%), recreational or occupational therapists (18.4%), social workers (21.5%), and psychiatrists (6.1%).

Procedure

Data was gathered from members of interdisciplinary psychiatric treatment teams using a questionnaire instrument developed by the researcher. A number of discipline-specific focus groups were held with members of the teams under study. The majority of questionnaires were administered and collected during focus groups held with team members. A smaller number were delivered to specific units where a senior hospital administrator distributed them during regularly scheduled team meetings. In this case, completed questionnaires were placed by respondents in sealed envelopes and returned to the researcher by mail. These data were collected as part of a larger needs assessment project done for the Department of Health and Hospitals and other state governmental agencies in late 1997.

Measures

A questionnaire instrument was developed to operationalize a number of variables from a model of SMT performance proposed by Yeatts and Hyten (1998). Variables were selected based on their fit with the model, a review of team-related research, and their relevance for this context.

Eight measures were constructed for the present study: information sharing, interpersonal support, equality of influence, task clarity, shared mission, leadership support, work process, and team performance. All constructs were assessed using multi-item measures. The response choice for all items was a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly disagree). Scale scores were calculated by averaging the ratings for all items in a construct. For all measures, higher scale scores indicated greater presence of the construct being assessed. Each measure is described below.

Information sharing.

Information sharing was measured by three items that assessed team member perceptions of the degree to which individuals are able to discuss and share information (e.g., "Team members do not discuss some important problems because the other professional disciplines would not fully understand them").

Interpersonal support.

Interpersonal support was measured by four Likert-type items that assessed the degree to which individuals believed team members supported one another, influenced each other in positive ways, and desired to continue to work together as a team (e.g., "We influence each other in a positive way").

Equality of influence.

A three-item measure assessed the degree to which team members believed they have equal ability to influence team decisions and actions (e.g., "Each member of the team has as much influence on team decisions as any other member").

Task clarity.

Task clarity was assessed using a three-item scale that measured the extent to which team has established clear task and procedural expectations of individual team members (e.g., "Our task assignments are clear").

Shared Mission

Three items measured the degree to which team members have established and share a common mission in terms of the services they provide (e.g., "We share a common mission or purpose").

LeadershipSupport

Leadership support was measured by three items that assessed the extent to which team members communicated with and received support and feedback from the team leader (e.g., "We receive honest feedback from our team leader").

Work Process

Work process refers to factors that are applied directly to accomplishing the team's work, and can include four dimensions: effort, talent, ability or KSAs applied to the work, the resources used to accomplish the work, and procedures used for doing the work (Yeatts & Hyten, 1998). One of the most important factors affecting team performance is level of existing ability: when teams don't have the appropriate talent or ability or are not able to apply the skills they have, their performance will suffer. The present study focuses on the talent/ability element, conceptualizes work process as a treatment team's ability to successfully manage team processes in the development and implementation of treatment plans, and measures the construct with four Likert-type items (e.g., "One of our strengths is the ability to plan and coordinate activities to meet treatment objectives").

Team Performance

One of the most important indictors of psychiatric treatment team effectiveness is their ability to produce high quality treatment plans that effectively identify and address patient needs. Team performance in this study was measured with six items that addressed treatment plan quality (e.g., "Our team's treatment plan identify and prioritize patient needs", "The interventions in our treatment plans are individualized for specific patients").

Analysis

Structural equation modeling (SEM) with LISREL 8 (Joreskog & Sorbom, 1993) was used to test the causal relationships between variables. The application of SEM provides a way to 1) model and estimate multiple and interrelated causal relationships, and 2) represent unobserved variables or concepts in these relationships and account for measurement error in the estimation process (Hair, Anderson, Tatham, & Black, 1998). One advantage of LISREL is that it provides tests of relationships between constructs that are not attenuated by measurement error (Loehlin, 1987).

Results

Following a procedure suggested by Hair et al. (1998), data analysis was conducted in two stages. First, the adequacy of the measurement model was examined to evaluate the contribution of each item to the construct being measured. Second, the structural model was examined to test the fit of the hypothesized model with the data. For both the measurement and structural models, a wide variety of goodness-of-fit indices are available for assessing model fit. To assess overall model fit, the chi-square statistic (χ^2) and the goodness-of-fit index (GFI) were examined. The root mean square error of approximation (RMSEA), a measure relatively insensitive to sample size, and the root mean square residual (RMR) were examined as complementary measures to the GFI and χ^2. The adjusted goodness-of-fit (AGFI) was evaluated because it adjusts the GFI by the degrees of freedom in order to consider the parsimony of the model. To compare the model's fit in relation to the worst and best fit attainable from other nested models, the normed-fit index (NFI) was examined. In general, a good fit of the data is indicated by RMSEA and RMR values that approach zero (with those larger than .08 as unsuitable), and GFI, AGFI, and NFI values that approach 1. Finally, the coefficient of determination (R^2) was examined in relation to the structural model as an indicator of variation accounted for, not of model fit per se.

Measurement model

As is generally recommended, analyses were based on a covariance matrix. Initial analyses calculated the means, standard deviations, and reliabilities for each scale (see Table 1). All scales had adequate variance and reliabilities ($\propto$ = .69 to .91) and all items loaded on their a priori determined factor. For each variable the t values associated with each of the loadings exceeded the critical value for the .05 significance level (critical value = 1.96) and the .01 significance level as well (critical value = 2.58). This verifies the posited relationships between indicators and their constructs. The measurement model produced a chi-square value of 427.23 (df = 322, $p < .001$). Other fits indices included GFI = .81, AGFI = .76, NFI = .82, RMSEA = .050, and RMR = .082. These values indicated the fit between the proposed measurement model and the observed data was marginally adequate. Examination of the modification indices did suggest possible options for model respecification. However, the suggested modifications could not be theoretically justified. Therefore the measurement model was accepted. The intercorrelations of the measures presented in Table 2 indicate none exceeded .80, a level commonly regarded as indicative of problems (Hair et al., 1998).

Table 1: Means, Standard Deviations, and Reliabilities of Measures[a]

Measure	Mean	SD	Reliability
Information Sharing	2.89	.92	.74
Interpersonal Support	3.27	.91	.91
Equality of Influence	2.70	.57	.69
Task Clarity	3.27	.91	.86
Shared Mission	3.48	.80	.83
Leadership Support	3.52	.99	.86
Work Process	3.22	.87	.88
Team Performance	3.41	.73	.82

[a]Means represent the average response to items in the scale and standard deviations are the average standard deviation of items in the scale.

Table 2: Correlations Among Measures

Measure	INF	INT	EQL	TC	SM	LS	WP	TP
Information Sharing	1.00							
Interpersonal Support	.51	1.00						
Equality of Influence	.27	.17	1.00					
Task Clarity	.54	.73	.23	1.00				
Shared Mission	.57	.71	.14	.70	1.00			
Leadership Support	.50	.62	.22	.56	.62	1.00		
Work Process	.63	.71	.23	.71	.74	.61	1.00	
Team Performance	.49	.49	.25	.55	.53	.51	.65	1.00

Structural Model

A total of 18 paths were tested (see Figure 3) in the structural model. In addition to the nine paths shown in the conceptual model (Figure 2), nine additional paths were added. These paths were added in order to obtain an adequate number of indicators for the two of the latent variables. Thus, paths for the scale items for work process (items 56, 58, 59, 61) and team performance (items 77, 79, 85, 86, 87) were included in the structural model.

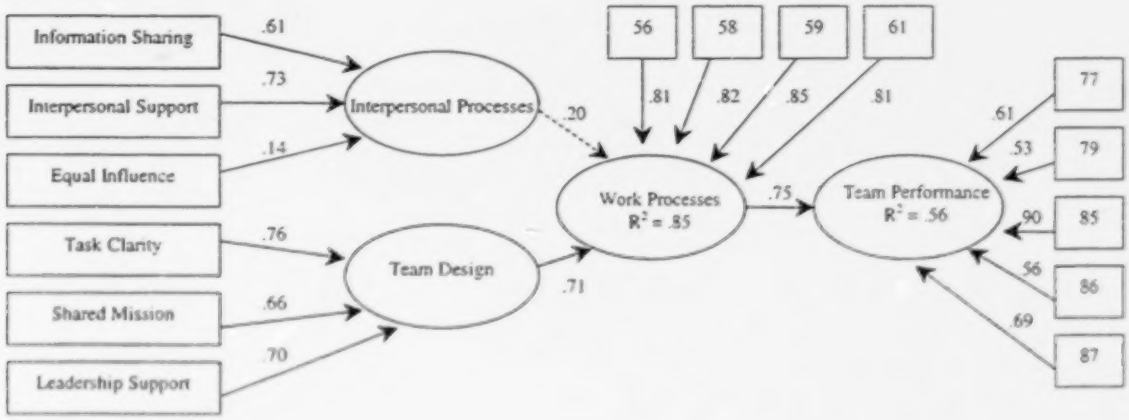
The results of the structural analysis are summarized in Figure 3 which displays the standardized path coefficients (beta weights), as well as the explained variance (R^2) for the dependent variables work process and team performance. A dashed line indicates unsupported paths. As can be seen, 17 of the 18 hypothesized paths were supported ($p < .05$). The structural model produced a chi-square value of 108.78 (df = 86, $p < .05$). The GFI (.90) AGFI (.86), NFI (.91), RMSEA (.045), and RMR (.042) were all indicative of acceptable fit.

As predicted, team performance was relatively well accounted for by the model (R^2 = .56) and work process emerged as a significant predictor (B = .75). The indication is that treatment plans quality is significantly enhanced when teams are able to successfully manage processes critical to the development and implementation of treatment plans. This includes the ability to manage intra-team disagreements in ways the make the team more effective, resolve conflicts in positive ways, and coordinate team activities to meet treatment objectives.

The results further suggest that work process is enhanced by team design factors (B = .71) as predicted by the Yeatts-Hyten model. Team design was an unmeasured latent variable in this study that was strongly influenced by

task clarity (B = .76), shared mission (B = .70), and to a lesser extent leadership support (B = .50). Contrary to expectations, interpersonal processes, another unmeasured latent variable in this study, was not a significant predictor of work process. Interpersonal processes were, however, significantly influenced by information sharing (B = .61), interpersonal support (B = .73), and, to a much lesser degree, equality of influence (B = .14).

Figure 3: Structural Model with Path Coefficients



Conclusions

This research tested the applicability of a portion of the Yeatts-Hyten (1998) model of SMT performance to psychiatric treatment teams. The overall pattern of relationships between independent and dependent variables was generally consistent with the Yeatts-Hyten model. Seventeen of 18 tested paths between predictors and dependent variables were significant indicating most of the predicted relationships held.

According to Yeatts and Hyten (1998), work process factors are those factors applied directly to the team's work or "where the rubber hits the road" in terms of actually doing the work of an SMT. These authors depart from previous models of SMT effectiveness to suggest that work process, not interpersonal processes, have direct effects on performance outcomes. The present research found work process to be a significant predictor of team performance, providing strong support for this conceptualization. On the other hand, the Yeatts-Hyten model indicates that interpersonal process affects team performance via its influence on work process. This prediction was not confirmed by the data: interpersonal processes was not a significant predictor of work process. There are several possible explanations for this finding. First, this finding suggests it is possible that treatment teams may display adequate interpersonal processes but still lack the other skills necessary to successfully manage team processes in the development and implementation of treatment plans. In other words, interpersonal processes may be to some extent necessary, as suggested by Yeatts and Hyten, but, as measured in this context, are not sufficient to predict team ability to manage treatment plans. Second, multicolinearity among the predictors may have suppressed the significance level of this path. Although no correlations exceeded .80, several approached or exceeded .70. Multicolinearity increases the standard error of the coefficients and makes it more difficult for the paths to achieve significance, particularly with a relatively small sample size. In short, only the strongest paths reach significance. Future research can help solve this problem with more substantial sample sizes and by operationalizing the independent variables to further reduce the level of intercorrelation.

This study found that team design elements significantly influenced work process factors. Team design was well predicted by the clarity of tasks among team members, a commonly shared vision of the team's mission or purpose, and to the availability of leadership support. These findings strongly suggest that when interdisciplinary treatment team members know what they are supposed to do and have leadership support for doing it, that the team will be better able work effectively and meet the performance standards required of them. Clearly defined individual and team tasks and goals is seen as critical to team effectiveness from both a conceptual (Hackman, 1987) and empirical perspective (Tannenbaum et al, 1992). The presence of these factors reduces intra-team conflict while improving work-related coordination. Leadership support is important because effective teams are dynamic entities

that evolve over time. Therefore the ability to meet short and long term performance objectives requires the presence of effective feedback mechanisms to allow the team as a whole and individual team members to make behavioral adjustments as needed. The present research suggests a key function of team leadership is to provide this mechanism: that is, to monitor and contribute honest feedback about performance.

Taken together, the findings of this study underscore the importance of attending to team design and work process factors in understanding effective psychiatric treatment performance. To further examine the role or interpersonal, team design, work process and other factors in the Yeatts-Hyten model, further research is needed. To more fully understand the complexity of SMT performance, this research should aim for larger samples in various organizational contexts that would enable group/team-level analyses with adequate statistical power.

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